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## **Involvement and Labor Efficiency of Rural Women in Agricultural Sector: A Study in Darrang District of Assam (India)**

Ghana Kanta Sarma<sup>1</sup>, Purabi Sarmah Baruah<sup>2</sup>, Pabitra Kr. Bordoloi<sup>3</sup>

### **Abstract**

Agriculture plays a very important role in the economic development of rural India. It is well known that the contribution of rural women in agricultural sectors is very significant. A study was conducted in the Darrang district of Assam with the objectives to explore the involvement of rural women in decision-making of different agricultural activities and to find out the labor efficiency of rural women in agricultural activities. Purposive sampling technique was used for selection of development blocks and random sampling technique was used for selection of villages in the study. The study revealed that in case of sericulture and handloom sectors, all decisions were taken by the farm women only and this was followed by livestock and poultry (57.33 per cent) and agriculture (40.00 per cent). On the other hand, in case of labor efficiency of rural women, the efficiency was more in small size group than medium and large size groups.

*Key Words:* Agriculture, Livestock, Poultry, Fishery, Handloom, Labour Efficiency, Sampling Technique

### **Introduction**

Agriculture is the backbone of the rural economy in India. Over the years, there has been a gradual realization of the role of women in agricultural development and their contribution in the field of agriculture, food security, horticulture, processing, nutrition, sericulture, fisheries, and other allied sectors. They mainly work as the agricultural laborers and have been applying their labor not only for the physical output but also for the quality and efficiency. The social, economic and cultural conditions of an area determine women's participation in home and farm activities. Of course, it varies from region to region and within a region, their involvement also varies among different farming systems, castes, classes and socio-economic status (Swaminathan, 1985). In truth, women are involved in all aspects of agriculture, like crop selection, land preparation, seed selection, planting, weeding, pest control, harvesting, crop storage, handling, marketing, and processing. Being predominantly agrarian economy, the role of women in agriculture and allied activities in Assam (India) is a known phenomenon. However, their role and contribution has not been quantified in all the districts of the state. Darrang district is one of the agriculturally developed districts situated in the north bank plain zone of Assam (India). Considering women's participation in agricultural activities, a study on involvement of rural women in agriculture was carried out in Darrang district with the objectives of exploring the involvement of rural women in the decision making of different agricultural activities and to find out their labor efficiency.

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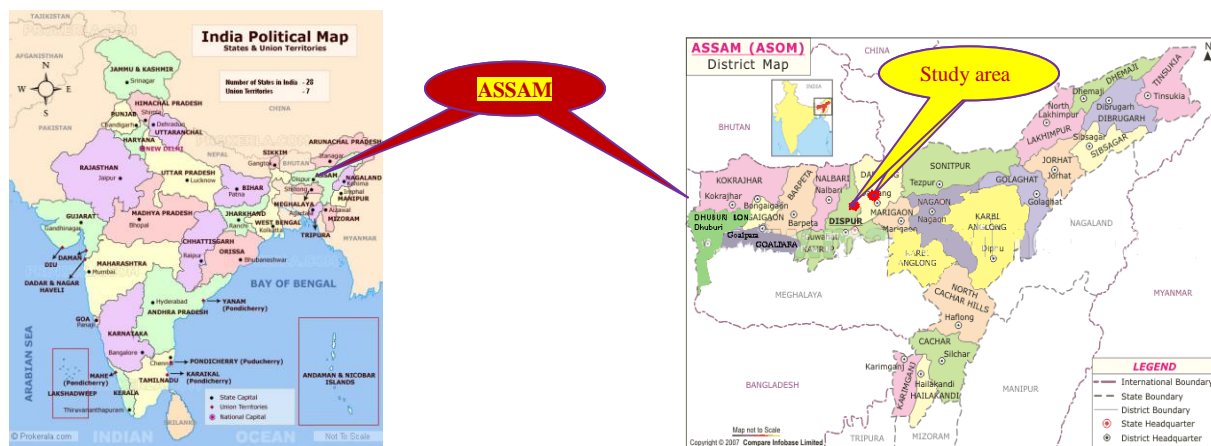
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## Methodology

The study was conducted in the Darrang district of Assam. Two community development blocks namely, Sipajhar and Pachim Mangaldai were purposively selected. Five villages from each of the blocks were selected at random. Fifteen households were selected randomly from the 10 selected villages that comprised the ultimate sample respondents of 150 numbers. The data were collected using pre-tested questionnaires. A personal interview method was followed for collection of data. Based on size of land holding, the selected samples were further stratified into small (< 2 ha), medium (2 – 4 ha) and large (> 4 ha) groups. The data collected pertaining to the year 2010-11. Both tabular and statistical analyses were done to analyze the data. For convenience of the study, women's labour efficiency was measured in terms of income per hectare received from gainful employment of women in rupees. Higher income implied higher efficiency and *vice versa*. The study area is illustrated as follows.

**Figure 1: Study Area**



## Results and Discussion

### Population and Family Size

Out of the 150 respondents, 83 (55.33 per cent) were under small size group, 56 (37.33 per cent) were under medium size group and 11 (7.33 per cent) were under large size groups (Table 1). The Table implied that the size of family decreased with the increase of size group of farms. The average family size was found as 6.17.

**Table 1: Population and Family Size Pattern According to Size Group of Farms**

Size groups	No. of farm families	Population (no.)			Average Family size
		Male	Female	Total	
Small	83 (55.33)	280 (58.70)	251 (56.03)	531 (57.41)	6.39
Medium	56 (37.33)	170 (35.64)	161 (35.94)	331 (35.78)	5.91
Large	11 (7.33)	27 (5.660)	36 (7.81)	63 (6.81)	5.72

<b>Total</b>	<b>150</b> <b>(100.00)</b>	<b>477</b> <b>(100.00)</b>	<b>448</b> <b>(100.00)</b>	<b>925</b> <b>(100.00)</b>	<b>Av. 6.17</b>
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\* Figures in the parentheses indicate percentage to the total

### *Female Population*

The distribution of the female population according to size group of farms is presented in Table 2. It was observed from the table that most of the female population belonged to the age groups of 16-30 years (29.02 per cent) and 30-60 years (29.69 per cent). Thus, it could be concluded that the females under these age groups were more active than the others.

**Table 2: Distribution of Female Population According to Size Group of Farm**

Size group	No. of females				Total
	Up to 16 years age	16-30 years age	30-60 years age	Above 60 years age	
Small	59 (23.50)	69 (27.49)	75 (29.88)	48 (19.12)	251 (100.00)
Medium	34 (21.12)	51 (31.68)	47 (29.19)	29 (18.01)	161 (100.00)
Large	9 (25.00)	10 (27.78)	11 (30.56)	6 (16.67)	36 (100.00)
Total	102 (22.77)	130 (29.02)	133 (29.69)	83 (18.53)	448 (100.00)

\* Figures in the parentheses indicate percentage to the total

### *Employment of Family Labour in Agricultural Sectors According to Size Group of Farms (man days/ha/year)*

The employment of family labour (man days/ha/year) in agricultural sectors according to size group of farms is depicted in Table 3. The table revealed that the total female working days in different farm activities per hectare per year was more than the engagement of males in both the cases of small and medium farmer groups. But in case of large farmer group, the engagement of both male and farm women was more or less equal. The total female working days per hectare per year accounted as 476 while that of male was 385. This clearly indicated that rural women were employed more than the men in farm activities. It might be due to the fact that the men were engaged in some outside activities like marketing, official works, business activities and so on. In case of sericulture and handloom sectors, the employment of male workers were found nil in case of small and medium farmer groups.

**Table 3: Employment of Family Labour in Agricultural Sectors According to Size Group of Farms (man days/ha/year)**

Farms	Small		Medium		Large		Total	
	Female	Male	Female	Male	Female	Male	Female	Male

Agriculture	82 (40.59)	94 (75.20)	80 (38.10)	94 (69.63)	72 (40.32)	97 (77.60)	236 (49.58)	285 (74.03)
Livestock and poultry	50 (24.75)	15 (12.0)	65 (30.95)	22 (16.30)	56 (45.16)	20 (16.00)	171 (35.92)	57 (14.81)
Fishery	20 (9.90)	10 (8.00)	18 (8.57)	12 (8.89)	6 (4.84)	4 (3.20)	44 (9.24)	26 (6.75)
Sericulture	23 (11.39)	0 (0.00)	25 (11.90)	0 (0.00)	2 (1.61)	2 (1.60)	50 (10.50)	2 (0.52)
Handloom	23 (11.39)	0 (0.00)	20 (9.52)	0 (0.00)	10 (8.06)	2 (1.60)	53 (11.13)	2 (0.52)
Wage paid labour	4 (1.98)	6 (4.80)	2 (0.95)	7 (5.19)	0 (0.00)	0 (0.00)	6 (1.26)	13 (3.38)
<b>Total</b>	<b>202</b> <b>(100.00)</b>	<b>125</b> <b>(100.00)</b>	<b>210</b> <b>(100.00)</b>	<b>135</b> <b>(100.00)</b>	<b>124</b> <b>(100.00)</b>	<b>125</b> <b>(100.00)</b>	<b>476</b> <b>(100.00)</b>	<b>385</b> <b>(100.00)</b>

\* Figures in the parentheses indicate percentage to the total

#### *Activities Performed by the Farm Women in Crop Production*

In the crop production process, farm women have played a very vital role. Women are engaged in land preparation to bagging and storing of farm produce. The engagement of farm women in different activities of crop production is depicted in Table 4. It was clear from the table that except field visit and application of plant protection chemicals, farm women were engaged in all other activities. It was observed that on an average, 10.70 per cent of farm women were engaged in land preparation against the 40.54 per cent men. In case of uprooting of seedlings from the nursery bed, more farm women were engaged (29.73 per cent) than men (12.22 per cent). The activities like sowing/ transplanting, harvesting/ carrying and threshing were performed more by men (40.54 per cent) than women (29.73 per cent). In case of drying and cleaning, 21.30 per cent rural women were engaged against 6.27 per cent men. In bagging and storing practice of farm produce, more numbers of women (20.97 per cent) were engaged than men (4.76 per cent).

**Table 4: Activities Performed by the Women in Crop Production**

Farm operations	Small		Medium		Large		Total	
	Female	Male	Female	Male	Female	Male	Female	Male
Land preparation	81 (15.25)	245 (46.14)	15 (4.53)	126 (38.07)	3 (4.76)	4 (6.35)	99 (10.70)	375 (40.54)
Uprooting of seedlings	163 (30.70)	48 (9.04)	101 (30.51)	62 (18.73)	11 (17.46)	3 (4.76)	275 (29.73)	113 (12.22)
Sowing/transplanting	163 (30.70)	245 (46.14)	101 (30.51)	126 (38.07)	11 (17.46)	4 (6.35)	275 (29.73)	375 (40.54)
Field visit	0 (0.00)	120 (22.60)	0 (0.00)	80 (24.17)	0 (0.00)	2 (3.17)	0 (0.00)	202 (21.84)
Application of plant protection chemicals	0 (0.00)	107 (20.15)	0 (0.00)	63 (19.03)	0 (0.00)	2 (3.17)	0 (0.00)	172 (18.59)
Crop harvesting and carrying	163 (30.70)	245 (46.14)	101 (30.51)	126 (38.07)	11 (17.46)	4 (6.35)	275 (29.73)	375 (40.54)

Threshing	163 (30.70)	245 (46.14)	101 (30.51)	126 (38.07)	11 (17.46)	4 (6.35)	275 (29.73)	375 (40.54)
Drying	108 (20.34)	29 (5.46)	76 (22.96)	27 (8.16)	13 (20.63)	2 (3.17)	197 (21.30)	58 (6.27)
Cleaning	108 (20.34)	29 (5.46)	76 (22.96)	27 (8.16)	13 (20.63)	2 (3.17)	197 (21.30)	58 (6.27)
Bagging and storing	108 (20.34)	25 (4.71)	76 (22.96)	18 (5.44)	10 (15.87)	1 (1.59)	194 (20.97)	44 (4.76)
<b>Total no. of farm women + men</b>	<b>531 (100.00)</b>		<b>331 (100.00)</b>		<b>63 (100.00)</b>		<b>925 (100.00)</b>	

\* Figures in the parentheses indicate percentage to the total

### *Extent of Involvement of Women in Decision-making and Management in Farming*

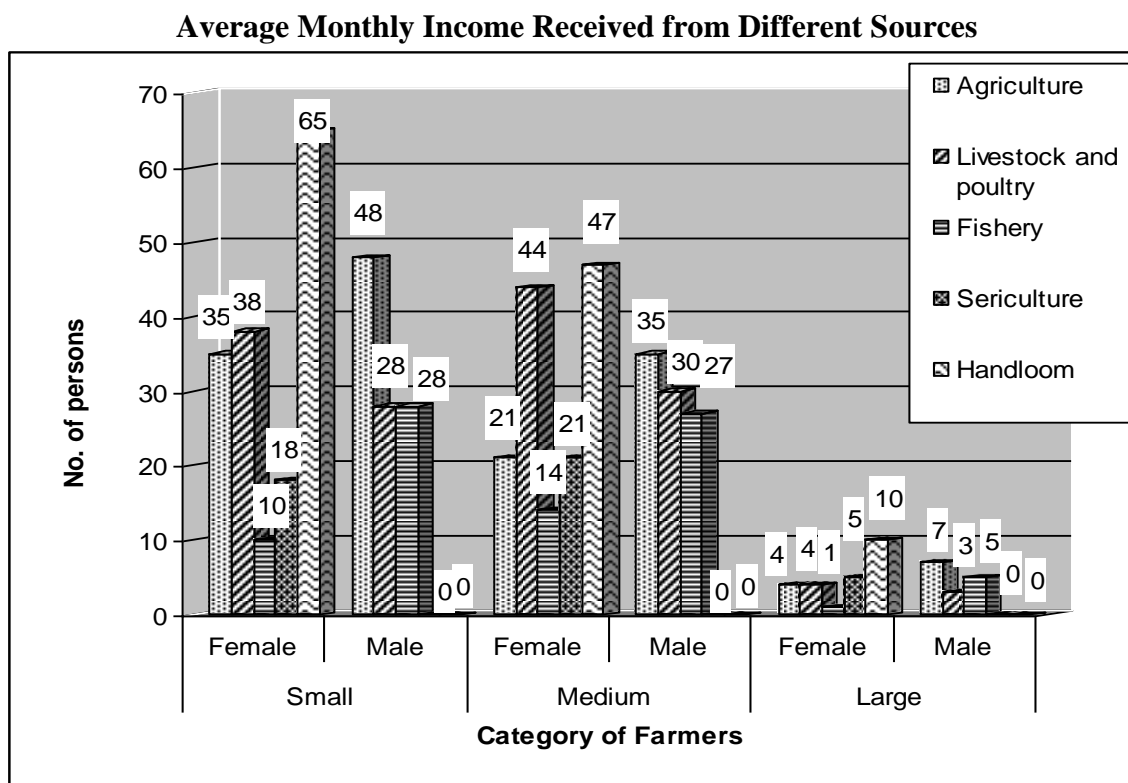
Farm women also played a very important role in decision-making in farming and its management process. (Acharya and Bennet, 1982). The extent of involvement of women in decision making and management of farming is presented in Table 5. Out of 150 respondents of the study, 40.00 per cent of farm women were involved in the process of decision making in agriculture farming process whereas 57.33 per cent farm women made decision in livestock and poultry farming and 16.67 per cent were in fish farming. In the case of sericulture and handloom sector, all decisions were made by the farm women only. Badigar and Rao (1980) also reported that the farm women had a pivotal role in the decision making process of agricultural farm activities.

**Table 5: Extent of Involvement of Women in Decision-making and Management in Farming**

Sectors	No. of						Total	
	Small		Medium		Large			
	Female	Male	Female	Male	Female	Male	Female	Male
Agriculture	35 (42.17)	48 (57.83)	21 (37.50)	35 (62.50)	4 (36.36)	7 (63.63)	60 (40.00)	90 (60.00)
Livestock and poultry	38 (45.78)	28 (33.73)	44 (78.57)	30 (53.57)	4 (36.36)	3 (27.27)	86 (57.33)	61 (40.67)
Fishery	10 (12.05)	28 (33.73)	14 (25.00)	27 (48.21)	1 (9.09)	5 (45.45)	25 (16.67)	60 (40.00)
Sericulture	18 (21.69)	0 (0.00)	21 (37.50)	0 (0.00)	5 (45.45)	0 (0.00)	44 (29.33)	0 (0.00)
Handloom	65 (78.31)	0 (0.00)	47 (83.93)	0 (0.00)	10 (90.90)	0 (0.00)	122 (81.33)	0 (0.00)
Total no. of farm families	83 (100.00)		56 (100.00)		11 (100.00)		150 (100.00)	

\* Figures in the parentheses indicate percentage to the total

**Figure 2: Extent of Involvement of Women in Decision Making and Management in Farming**



For average monthly income received from different sources according to size group of farms, Table 6 reveals that the all farmers groups were getting income from different sources of agricultural sectors and services. But it was very clear from the table that service was the main source of income and the highest income was received from the service in all size groups of farmers. Out of different farming sectors, the agriculture sector generated highest income in all size groups of farms followed by livestock and poultry sector and fishery sector. The Table also revealed that out of the income received by the farm families, the average income received from women gainful employment was 43.90 per cent for small size group, 43.05 per cent for medium size group and 39.92 per cent for large size group of farm families. The gradual decrease of average income received from women gainful employment from small size to the large size of farm families implied that the labour efficiency decreased with the increase of farmers groups

**Table 6: Average Monthly Income (in Rs.) Received from Different Sources According to Size Group of Farms**

Sectors	Average Income received (in Rs.) by			Total Average income (Rs.)
	Small farmers	Medium farmers	Large farmers	

Service	3,300.00 (26.83)	5,200.00 (31.71)	15,300.00 (59.20)	<b>23,800.00</b> <b>(43.67)</b>
Agriculture	2,840.00 (23.09)	3,900.00 (18.90)	5,150.00 (19.96)	<b>11,890.00</b> <b>(21.82)</b>
Livestock and poultry	2,490.00 (20.24)	3,100.00 (18.90)	2,200.00 (8.53)	<b>7,790.00</b> <b>(14.29)</b>
Fishery	1,700.00 (13.82)	2,230.00 (13.60)	1,700.00 (8.59)	<b>5,630.00</b>
Sericulture	360.00 (2.93)	430.00 (2.62)	550.00 (2.13)	<b>1,340.00</b>
Handloom	600.00 (4.88)	550.00 (3.35)	300.00 (1.16)	<b>1,450.00</b>
Wage paid labour	1010.00 (8.21)	990.00 (6.04)	600.00 (2.33)	<b>2,600.00</b>
Average Income received by rural women from gainful employment	5,400.00 (43.90)	7,060.00 (43.05)	10,300.00 (39.92)	<b>22,760.00</b>
<b>Average gross income from all sources</b>	<b>12,300.00</b> <b>(100.00)</b>	<b>16,400.00</b> <b>(100.00)</b>	<b>25,800.00</b> <b>(100.00)</b>	<b>54,500.00</b> <b>(100.00)</b>

\* Figures in the parentheses indicate percentage to the total

## Conclusion

Many studies have observed that rural women have engaged in their household farming practices. They work in their house without rest, but still they are not obtaining full social status in rural India. Basically, they perform the farm activities which boost up the economy of the country as a whole. We can improve the economic condition of our country through increasing agricultural production. Thus, proper technical know-how of agricultural farming should be disseminated among the farm women and in addition to that they should be assisted financially both in cash or in kind so that they can perform their activities in a better way. From the above study, one must admit that the rural women contribute a lot to the agricultural sector besides performing other household activities like child care, cooking, cleaning etc., but in rural India their contribution is still ignored. So, to create awareness among the people of rural society on the contribution women towards agricultural sector, to improve their social status, empower them enough and to boost up the rural economy as a whole such studies have great importance.

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## **References**

- Acharya, M and Bennet, L. 1982. Women and the Subsistence Sector, Economic participation and Household decision making in Nepal. The World Bank. Washington D.C. (Mimco). pp. 22-23.
- Badigar, C. I. and Rao, M. K. 1980. Participation of farm women in decision making on farm and home aspects. World Agricultural Economics and Rural Sociology Abstracts. 23(9): 740.
- Swaminathan, M.S. 1985. Imparting rural women perspective to agricultural research and development. Report of the Project Design Workshop on Women in Farming Systems, held at the International Rice Research Centre, Los Banos, Phillippines, April 10.